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NESHAPS/ASBESTOS INSPECTION REPORT

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Richland, Washington

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INSPECTION DATE: May 11-15, 1998

REPORT DATE: June 9, 1998

INSPECTOR: Andrew Hess, Environmental Scientist
Investigation & Engineering Unit, OEA

Background

The Hanford Site was acquired by the federal government in 1943 and covers 560 square miles of arid land in southeastern Washington state. It's original mission was the production of nuclear materials for the nation's defense programs. For over 40 years this program generated hazardous waste, pollution and contamination resulting in vast volumes of contaminated water, soil and structures.

Today the Hanford Site's mission is to clean up the site and to provide scientific and technological expertise. The clean-up is performed by private contractors and is governed by an agreement signed in 1989 between the U.S. Department of Energy, the U.S. Environmental Protection Agency and the Washington State Department of

Ecology. This document, called the Tri-Party Agreement, outlines a plan to clean up the site by the year 2028. A more detailed history and other relevant information on the Hanford site can be found on their web site at www.hanford.gov.

Introduction

As part of a multi-media inspection I conducted an Asbestos NESHAPS inspection of the Department of Energy, Richland Operations Office, Hanford site on May 11-15, 1998. I was accompanied by Mr. Rob Rodger, Air Quality Inspector, of Benton County Clean Air Authority on May 12-13.

Opening conference meetings were held on May 11, 1998 with representatives of the Department of Energy (DOE), EPA, Washington State Department of Ecology and other local regulatory authorities. At this time Dale Jackson, Milestone Manager, Tri Party Agreement, was assigned to me as the DOE representative for the NESHAPS asbestos portion of the inspection.

Inspection

On May 12, 1998 Mr. Rodger and I met with Mr. Jackson and Mr. Ray Collins, (representing Bechtel, a prime contractor). I showed them my credentials and explained the scope of my inspection. We then proceeded to meet with Mr. Brad Mewes, Bechtel Field Supervisor for work at the 233S site. Mr. Mewes reviewed with me the asbestos abatement and removal sites which Bechtel was currently supervising. He also gave me a copy of an inventory of asbestos containing material (ACM) dated May 27, 1997, (Attachment "A") for the areas of Bechtel's responsibility.

Mr. Mewes listed the various sites where asbestos removal was in progress and where ACM was disposed. He stated that non radioactive contaminated ACM is disposed at Rabanco in Roosevelt, Washington. The transporter for this material is Basin Disposal Incorporated of Pasco. Low level radioactive waste is disposed on site at the Central Waste Complex. The higher level radioactive ACM waste is disposed at the Environmental Restoration Disposal Facility (ERDF) located on site. If this material is highly radioactive then it will be hard packaged before disposal.

In 1994 they stopped disposing of material to the on-site "Central Landfill" because it had reached capacity. In the past, non-friable ACM was disposed into "Clear wells." These were explained to me as underground receptacles with a small man-hole size opening at the top.

Mr. Mewes stated that the air monitoring is performed by their subcontractor, THI, and sampling analysis is performed off site by Prezant. He also said that an Asbestos

Abatement Work Plan, (AAWP), is prepared for each work site. The original AAWP for the 1304-N Emergency Dump Tank is attached as Attachment "B".

233S Site

Mr. Mewes escorted us to the 233S site, (Photo #1) where we received an orientation prior to entering. They have completed the first year of the three year project. As the photograph shows, the known ACM has been painted pink. This is universal throughout the Hanford site. There was no actual removal work in progress at the time of our inspection. Mr Mewes showed us the areas where ACM had been removed. No residual ACM was evident.

Mr. Mewes stated that they used negative pressure enclosures for each room where removal work is done. After each removal all exposed surfaces are sprayed with "Lock-down" to cement the friable material in place until the next stage of removal.

The material removed prior to our inspection was in the process of being transported to the nearby Rad Material Storage Area, (RMA), Photos #2-4. The bags are staged in this secure area prior to final disposal. The ACM is double-bagged and appeared wet inside. Each bag is assigned an inventory number which identifies the date in, date out, description of material, dose rate, and radiation type. These bags have the proper ACM identification, but are not individually labeled with generator and site information.

The oldest bag I observed was dated 2/19/98. On the average the bags are disposed of every three months according to Mr. Mewes. He also said he performs weekly and monthly inspections of the storage area.

Mr. Mewes stated that the radioactive ACM bags do not receive the identification labels because they stay on-site for disposal. The non-Rad waste bags, which will be transported off-site, are placed into a larger box which receives the identification label. I found this to be the common practice for other projects on the Hanford site.

105C Reactor Building

We next visited the 105C Reactor Building where ACM removal of various materials had been in progress since October, 1996. At the time of my inspection all the friable ACM had already been removed. We observed the removal of the non-friable transite panels from the building, Photos #5 and 6. As the photographs show, the panels were being removed in sections by a crane, placed on the ground and then properly wrapped. After these observations and talking with the site supervisor, Rod Griffin, we decided it was not necessary for us to enter the work area.

1304-N Emergency Dump Tank, 100-N Area

Photographs #7-25 and the attached video document the ACM removal at this site. We arrived at this site at about 3:00 P.M. on May 12 and met Mr. Joe Pizzarella, site supervisor. He explained that the work for the day had been shut down and that they would resume on the next day. We reviewed the work plan which was present on site, (Attachment "B").

Mr. Rodger commented that on the Notification of Intent filed with Benton County Clean Air, (Attachment "D"), Bechtel had stated that only 150 square feet of ACM was to be removed. It was apparent from the number of waste bags, (Photos #10-12), and the work in progress that considerably more material was being removed. Mr. Pizzarella stated that the Notification was in error and that he would resubmit a corrected version. The revised notification stated that 4000 square feet are to be removed, (Attachment "E"). The completion date was also extended to June 25, 1998.

As photographs #10-12 show, the bags of ACM waste are not stored in a secure area. Mr. Pizzarella stated that since this was low level radioactive waste it was to go to the 200W Central Waste Complex. He said they accumulate about one week's worth of waste before the bags are transferred to the waste complex by a lined dump truck. I commented to Mr. Pizzarella about the bags not being in a secure area. He said that anyone entering the site receives training and that the whole area is considered secure. I related to him how the ACM is stored at the 233S site where the material is kept in a lockable tent. I stated that based on my experience at other sites I had inspected, the local authority would consider his storage practice unacceptable. I indicated that the EPA Program case reviewer would make a determination as to the acceptability of his storage practice.

We returned to this site the next day, May 13 to observe the work in progress. Those present in addition to myself were Mr. Rodger, Mr. Jackson, Mr. Collins, and Mr. Pizzarella. Photographs #13-14 and the video show how the ACM was removed. The workers manually pried off the material and would place it directly into a waste bag. We observed several pieces of disturbed insulation falling 40-45 feet to the ground. A yellow tarp was placed on the ground to catch this falling debris, (photos #18-20).

Upon closer inspection of the ground area we found a large volume of insulation debris which had bounced off of the tarp onto the bare ground, photos #21-25. Mr. Pizzarella stated that a lot of the material on the ground was old insulation from prior years decay. I pointed out to him that it was obvious from the color and condition of much of the material that there was fresh ACM scattered on the ground. I also pointed out that on the side of the tank opposite from where the work was in progress that there was residual ACM on the tarp from previous days work. All this material was completely dry. This was in violation of their work plan, section 4.7 which, among other things, stated that "prompt clean-up and disposal of wastes and debris contaminated with

asbestos in leak-tight containers will be performed." Mr. Pizzarella agreed with me that the material on the ground and tarp most likely contained asbestos.

I stated the following problems of the observed work practices to Mr. Jackson, Mr. Collins, and Mr. Pizzarella: 1) Allowing ACM debris to fall 40-45 feet to the ground was unacceptable; 2) ACM was present outside of their controlled work area. The boundaries needed to be enlarged; and 3) It was obvious that end-of-the day clean-up was not being properly conducted.

I explained to Mr. Pizzarella that even though they spray encapsulant on the exposed edges of their work site, this does not contain the dry debris left around the base of the tank. I also suggested that they design some type of apron or other device staged directly under the active removal area to catch the loose debris that would otherwise fall to the ground.

When Mr. Pizzarella was asked why he did not use scaffolding and build an enclosure he stated that an enclosure would increase the heat stress on the workers and would not be able to stand up to the winds. Mr. Rodger did not feel that these were valid reasons. Mr. Pizzarella also stated that they did not use scaffolding because it would have to be disposed of since they could not guarantee that it would be free of radioactive contamination. I did not think to ask at the time, but in retrospect I wonder if they plan on disposing the man-lift bucket and arm? I would think scaffolding would be much cheaper.

I asked Mr. Pizzarella to document the changes in work practices in response to the problems I observed and to forward them to me through Mr. Jackson. I received the revised work plan, signed on 5/18/98, Attachment "C," on June 1, 1998.

At my request, Mr. Rob Rodger returned to the 1304-N Waste Tank on May 29, 1998 to note the change in work practices. His memo to me of his observations and video are attached, (Attachment "F" (memo)). He stated that although they did increase the regulated area and set up more poly, there still was "a fair amount of debris lying around." He also observed a large piece of ACM which had broken free resulting in additional dry ACM debris. He also noted that the man basket on the boom had significant amounts of dry ACM on it and that it was outside of the regulated area.

On May 27, 1998 I had a telephone conversation with Mr. Steve Moore and Mr. Phil Staats of the Washington Department of Ecology. I understood Mr. Staats to be Ecology's representative at the "N" Reactor. I reviewed with them what my concerns were about the 1304-N waste tank removal. Mr. Staats said that this was consistent with what he had heard. I expressed to Mr. Moore and Mr. Staats that I would appreciate any feedback they could give me on their observations of how the asbestos abatement work has been modified since my inspection. I asked Mr. Staats to contact Mr. Rodger prior visiting the site.

Mr. Staats stated that he had received a revised work plan. Since I had not yet received my copy, I asked that he E-Mail to me a copy of what he received, Attachment "G." What I received appeared to be a memo from Mr. Pizzarella to "Mike/Jeff" in which I found several inaccuracies. In item "1" Mr. Pizzarella stated the ACM fell approximately 20 feet. At the time of my inspection he estimated the distance to be 45 feet. From looking at the photographs and video I estimate the distance to be at least 35 feet. In item #2 Mr. Pizzarella states that although the material bounced out of the barricaded area it was contained on the polyethylene sheeting. At the time of my inspection Mr. Pizzarella acknowledged, and as my photographs clearly document, there was fresh ACM material outside of the polyethylene sheeting. In regards to item #3, as stated above, there *was* ACM off the drop cloth associated with the present removal job. Item #4 - as the photographs show there was definitely more than "one" piece of suspected ACM on the ground cloth. It was also apparent that the practice of picking up debris at the end of the work shift was not being done.

Mr. Pizzarella states that no specific regulatory drivers were identified. At my close-out session I provided Mr. Jackson a copy of the regulations and we read together the specific sections which pertained to the problem areas I identified. I never indicated that there were no violations nor do I recall Mr. Rodger giving such an impression.

Waste Disposal Sites

Photograph #31 shows a typical burial trench at the 200W Central Waste Complex which receive low level radioactive waste. This is where the waste from the 1304-N waste tank will be disposed of. We also drove by the old central landfill which had historically received ACM waste. It is now reclaimed and fenced-off to restrict access. There was no evidence of debris on the surface.

On May 13 we visited the Environmental Restoration Disposal Facility, (ERDF), managed by Waste Management Inc. We met Mr. Jeff Biagin of Waste Management Inc., and Mr. Glenn Van Sickle of Bechtel. Mr. Van Sickle stated they receive an ACM shipment about ounce a month which amounts to about 1/10 of 1% of the total material they receive. They are notified the day before an ACM shipment is expected. RCI transportation provides all the on-site transport. No ACM was being received at the time of our inspection, but we did observe their general procedures. Mr. Van Sickle explained to us how the ACM once received is kept wet and immediately buried with forthcoming waste.

300FFI Dig Site

On the morning of May 13, 1998 we went to the 300 FFI Dig Site, photos # 29-30. Here we met Bechtel representatives Mr. Paul Berthelot, Field Superintendent, Mr. Jim Carson, Quality Assurance, and Mr. Bob McCloud, Department of Energy Unit Manager. Mr. Berthelot explained that during the excavation of this site ACM was encountered whereupon the work procedures were modified and the workers certified where needed for ACM related work. He explained that their subcontractor, Weston, excavated the material into double lined "rolloff" containers. The material was wetted and sealed in the container prior to disposal.

Mr. Berthelot stated that the dig site was shut down about 2-3 weeks ago due to the discovery of some extremely hazardous materials. He expected the site to be closed for the remainder of the year while they determined how to best handle the newly discovered hazardous material.

They applied soil cement on the exposed material and have set-up air monitors around the perimeter of the dig site. When asked how long the soil stabilizer was effective, we were told that if they observe dust blowing from the dig site, then they will reapply the soil cement. Mr. Rodger had stated that Benton Clean Air Authority had recently received a complaint of dust blowing off of this site.

I expressed my opinion that waiting to see dust blowing was an inappropriate method to uses as an indicator to reapply the soil cement. I suggested that they cover the waste pile with a tarp or reapply the soil cement periodically on a regular basis. At my close out meeting with Mr. Jackson I recommended to him that they have a formal contingency plan to reapply the soil cement following the manufacturer's recommendations in response to rain, wind, or other environmental factors.

277W Site

During our search for a past removal operation we came across a removal in progress at 277W, photograph #26. This work was being done by Intermountain West, a subcontractor to Johnson Controls. I met the site supervisor, Mr. Duane Kilsdonk who explained to me their work practices. All removal of the pipe insulation was being done with glove bags. The removed material is double-bagged and placed into a roll-out dumpster, (photos #27-28) which will be disposed off-site. As noted at the previous sites, it is standard practice to just label the dumpster with the generator and site identification rather than each individual bag.

105 DR and 100H Clear Wells

On the afternoon of May 13, 1998 we visited the 105-DR site where Mr. Stephen Hamblin, Field Superintendent gave us an overview of the ACM removal work. Since the only removal was of non friable transite and floor tile, we elected not to enter the work area for observations. My camera malfunctioned at this point so that I was not able to acquired any more photographs for the remainder of my inspection.

We next visited the clear wells in the 100H area. Here we found general building debris, refuse, concrete, rebar, metal scrap, and other miscellaneous items. Although in the past ACM had been dumped here there was no evidence of residual ACM present.

Fluor Daniel

On May 14, 1998, Mr. Jackson and I went to the offices of Fluor Daniel Northwest, Inc., with the intent of gathering information on the balance of the ACM removal projects not managed by Bechtel. We met with Mr. Robert Newell, Manager, Environmental Programs and Integration and Mr. Ronald DelMar, Environmental Scientist.

Mr. DelMar provided me with a copy of a letter from the Department of Energy to Benton County Clean Air Authority identifying asbestos contractors and their corresponding points of contact, (Attachment "H"). Also identified in this letter is Kirk Peterson as the designated Fluor Daniel Hanford contact for coordination of the asbestos permits and reports. At this point Mr. Jackson realized that we should be talking to Mr. Peterson for the information we needed.

We met Mr. Peterson, Environmental Engineer, Fluor Daniel Hanford, Inc. in his office and explained the intent of our visit. He provided me with a copy of his Asbestos Renovation and Demolition Notification of Intent Tracking System, Attachment "H". We used this form to identify the remainder of projects I wished to visit.

3762 Building

Mr. Jackson, Mr. Peterson and I visited the 3762 Building which had been identified as having an ACM abatement project. The building was locked and no workers were present. Next to the building were two large metal containers referred to as "Luggers." These measured about 6 feet cubed, were locked and had the asbestos warning labels attached. Looking through a space in the door I could identify 2-3 bags of apparent waste inside of one of the luggers. Mr. Peterson did not have any information about the contents or use of these containers, but later was able to identify them as satellite accumulation containers to receive ACM waste from various maintenance jobs throughout the area.

331 Laboratory Building

At the 331 Laboratory Building we met with Mr. Jim Jacka, Construction Superintendent for Fluor Daniel. No abatement work was in progress at the time of our visit, but he did take us on a tour of the areas where previous work had been completed and where they were setting up for future removal of insulation from the piping and duct work in the overhead spaces. I found no residual insulation and the glove bags being installed appeared in good shape. We then went to the 331C building which is where the ACM waste is stored in a secure area prior to its disposal off-site. As at the other sites, they just marked the accumulation lugger with generator and site identification rather than each individual bag.

"T" Plant

At the "T" Plant site we met with Mr. Bill Ayers, Operations Manager. He explained that there was a removal completed about 3 week prior at the head end of the 221T building. He referred to this as the "Sodium removal Project." After inspecting this area it was discovered that the material removed did not contain asbestos.

Outside of this plant we discovered two luggers which were each about half full. Mr. Ayers also stated that two luggers went out for disposal the previous week. Mr. Jackson provided me with the disposal records from Dynacorp Tri-Cities Services, Inc. for the above stated disposal, (Attachment "J").

Outbrief

On the morning of May 15, 1998 I met with Mr. Jackson to review with him my inspection and to identify particular areas of concern. I gave him a copy of the Federal Register, Volume 55, No. 224, dated Tuesday, November 20, 1990.

Labeling Waste Bags

I identified and read with him section 61.150, 1, v, which states that asbestos-containing waste material to be transported off the facility site needs to be labeled with the generator and location information. I emphasized the fact that this information needs to be present on each individual bag for material disposed off-site rather than just the accumulation container as is now practiced.

1304 Waste Tank

I reviewed with Mr. Jackson the following items: The Notice of Intent for this project was grossly underestimated as being 150 square feet, when the actual removal was closer to 4000 square feet. I identified and read from the regulation with Mr. Jackson section 61.145, c, 6, ii, which states that RACM is to be carefully lowered to the ground, not dropping, throwing, sliding, or otherwise damaging or disturbing the material. I told him that I considered the practice being used to remove the ACM from this tank, which allowed significant amounts of debris to fall to the ground, to be in violation of this regulation.

I pointed out to Mr. Jackson that the residual ACM scattered around the base of the tank was unacceptable. We read together in the regulations where the material is to be kept adequately wet until properly collected. I noted to him that the residual material was not wet, nor was it properly contained or otherwise cleaned-up at the end of the work day.

I commented that the NESHAPS asbestos Program in Seattle will make a determination if the storage of their waste bags is appropriate. I noted that other areas on the Hanford site were able to provide a secure, lockable storage area for their ACM waste.

I reviewed with Mr. Jackson that asbestos debris was found outside the barriers on this job site.

300FFI Dig Site

I discussed with Mr. Jackson that the present practice of waiting to see visible emissions from this site before corrective actions were taken was unacceptable. I suggested that they contact the manufacturer of the lock-down encapsulation product which they are using and establish a proper maintenance program. In addition to routine application this program should allow for contingencies of rain, wind, or other environmental factors which could adversely affect the integrity of the encapsulant.

After reviewing with Mr. Jackson the documents I still expected to receive from him, I completed by debrief and left the site at about 9:30 AM.

Andrew Hess

6/9/98
Date

Attachment A - Inventory
B - Asbestos Abatement Work Plan, Rev. 0
C - Asbestos Abatement Work Plan, Rev. 1
D - Notification, 1304-N, 150 square feet
E - Notification, 1304-N, 4000 square feet
F - BCAA Memo from Rob Rodger to Andy Hess, 6/1/98
G - Memo re: 1304-N actions
H - DOE letter to Benton County Clean Air Authority, 2/20/98
I - NOI Tracking system chart
J - Dynocorp Disposal Records
Photographs
Site Maps
Video